Abstract Submitted
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Mullite Ceramics at Extreme Conditions[1] PATRICIA KALITA, ANDREW CORNELIUS, Dept. of Physics and Astronomy, University of Nevada Las Vegas, Las Vegas, NV, USA, KRIS LIPINSKA, OLIVER HEMMERS, Harry Reid Center for Environmental Studies, University of Nevada Las Vegas, NV, USA, STANISLAV SINOGEIKIN, Geophysical Lab., Carnegie Institution of Washington, Washington, DC, USA, REINHARD FISHER, Department of Geosciences, University of Bremen, Bremen, Germany, HARTMUT SCHNEIDER, Institute of Crystallography, University of Koeln, Koeln, Germany — Mullite is perhaps one of the most important phases in both traditional and advanced ceramics and thus one of the most widely studied ceramic phases. Even though the thermo-elastic behavior of mullites have been studied extensively (spectroscopy, diffraction, dilatometry, theoretical simulations), there are only few studies into the effects of pressure on mullites. This work aims at filling this gap by examining the role of oxygen vacancies on the mechanical stability and on the bulk modulus of mullite-type structures.

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